

REMARKS

1. In response to the Office Action mailed June 28, 2007, Applicants respectfully request reconsideration. Claims 1-21 were originally presented for examination. In the outstanding Office Action, claims 1-21 were rejected. By the foregoing Amendments, claims 4-6, 10-12, 14, and 16-21 have been amended. Claims 22-30 have been added and claims 1-3, 7-9, and 13-15 have been cancelled. No new matter has been added. Thus, upon entry of this paper, claims 4-6, 10-12, 14, and 16-30 will be pending in this application. Of these twenty-two (22) claims, six claims (claims 22-27) are independent.
2. Based upon the above Amendment and following Remarks, Applicants respectfully request that all outstanding objections and rejections be reconsidered, and that they be withdrawn.

Drawings

3. Applicants thanks the Examiner for indicating that the drawings filed on January 14, 2004 are accepted.

Art of Record

4. Applicants acknowledge receipt of form PTO-892 listing additional references identified by the Examiner.
5. Applicants also thank the Examiner for returning the PTO/SB08A & B forms submitted by Applicants on January 14, 2005, which has been initialed by the Examiner indicating the Examiner has considered the references cited therein.

Priority Claim

6. Applicants note with appreciation the Examiner's acknowledgement of foreign priority under 35 U.S.C. §119.

Claim Amendments

7. By the foregoing Amendments, Applicants submit that the above Amendments do not narrow the scope of the claims and the Amendments have not been made in response to any rejection or objection. Applicants further submit that no new matter has been added.

Claim Rejections under §112

8. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Independent claims 1 and 9 have been cancelled, making this rejection moot. Furthermore, the new claims above are written so as to obviate a rejection similar to the instant rejection with respect to those claims. Applicants respectfully request that this rejection be reconsidered, and that it be withdrawn.

Claim Rejections under §103

9. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 4,834,431 to Calmettes et al. (hereinafter, “Calmettes”) in view of JP 8-61315. Claims 9, 13 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calmettes in view of U.S. Patent No. 3,181,901 to Watts (hereinafter, “Watts”). Claims 10-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calmettes in view of Watts and further in view of JP 8-61315. Applicants have cancelled independent claims 1 and 9 thereby rendering these rejections moot. Furthermore, Applicants’ new claims are patentable over the art cited with regard to the instant rejection, as discussed further below. Applicants respectfully request that this rejection be reconsidered and withdrawn.

New claims

10. Applicants have added new claims 22-30 to more clearly claim the present invention. Applicants submit that these new claims have not been added to overcome any objection or rejection and respectfully submit that no new matter has been added.

The Art of Record Fails to Teach or Suggest Applicants Invention as Recited in New Claims 22-27

11. Applicants further submit that for the reasons discussed below, new independent claims 22-27 are patentable over the art of record.

Applicants' New Independent Claim 22

12. With regard to independent claim 22, Applicants' new independent claim 22 recites, in part, a "bearing tab... further [comprising] ***a lip and*** wherein a ***join plane*** disposed between the two ends of the blank from which the spacer is formed is ***engaged under said lip.***" (See, Applicants' independent claim 22, above; emphasis added.) Neither Calmettes nor JP 8-61315 teach or suggest such a lip under which a "join plane disposed between the two ends of the blank from which the spacer is formed is engaged" as claimed by Applicants. Furthermore, Applicants assert that it would not be possible to provide such a lip for the flat spacer of Calmettes, since the flat spacer would then lose its spacing function if part of its thickness were absorbed or otherwise positioned under such a lip.

Applicants' New Independent Claim 23

13. With regard to new independent claim 23, Applicants' new independent claim 23 recites, in part, "***a cross-section of said spacer is flattened*** on a side closer to the ring, in the vicinity of the second end edge of said spacer which co-operates with the bearing tab against which said spacer is disposed." (See, Applicants' independent claim 23; emphasis added.) Calmettes describes that its "head (3a) of the bolt is provided on its periphery with a ***V-cut groove (3b) corresponding to the cross-section of the ring (1)***, so that the bearing zone of the head 93a) on the corresponding lug (2) extends as far as the zone in which said lug is joined to the ring (1)." (See, Calmettes, col. 3, ll. 26-35.) JP 8-61315 is generally directed to a clamping collar which clamps the objects to be tightened by utilizing its elasticity and the screw and bolt assembly (7, 8, 9, 10) in order to increase the diameter of the clamp against its elastic return. In JP 8-61315, spacer 13 is cylindrical or has convex longitudinal edges. (See, JP 8-61315, FIGs. 1 and 3.) Calmettes nor JP

8-51315, alone or in combination, fail to teach or suggest “*a cross-section of said spacer... flattened* on a side closer to the ring” as recited in Applicants’ independent claim 23.

Applicants’ New Independent Claims 24 and 25

14. With regard to independent claims 24 and 25, Applicants’ new independent claim 24 recites, in part, “*an inside periphery of the spacer defines a channel whose height* as measured in a plane in which the bearing tabs come towards each other while the collar is being tightened, *is greater than a diameter of the shank* of the bolt.” (See, Applicants’ independent claim 24, above; emphasis added.) Applicants’ new independent claim 25 furthermore recites, in part, “*the height of the channel is at least equal to 1.2 times the diameter of the shank* of the bolt.” (See, Applicants’ independent claim 25, above; emphasis added.) As is made clear in Applicants’ FIG. 3 and specification text, there is substantial clearance between the screw shaft and the inside of the spacer. As one of skill in the art would appreciate, this enables the relative motion of the screw shaft and the spacer upon tightening of the screw, due to the change of orientation of the bolt relative to the bearing tabs.

15. In both Calmettes and JP 8-61315, the through hole of the spacer has a diameter adapted to the diameter of the screw, where no substantial clearance exists between the screw shaft and the inside of the spacer. Calmettes expressly states, “The perforation made in abutment (5)... advantageously has a diameter as near as possible to the external diameter of the bolt thread.” (See, Calmettes, col. 3, ll. 37-41.) Furthermore, in Calmettes, the difference in the diameter before and after tightening the screw is substantially less and clearly different from Applicants’ difference in diameter upon tightening. In JP 8-61315, there is no apparent change of orientation which occurs upon tightening that is analogous to the change provided by Applicants’ invention. Accordingly, neither Calmettes nor JP 8-61315, alone or in combination, teach or suggest Applicants’ invention as claimed in independent claims 24 or 25.

Applicants’ New Independent Claim 26

16. With regard to independent claim 26, Applicants submit that none of the art cited, nor other art of record, alone or in combination, teach or suggest Applicants’ invention as claimed in

independent claim 26. Independent claim 26 recites, in part, “the **second end edge of the spacer** is **in contact** with said second element **via said portion maximum length**, and the portion of minimum length is apart from said second element; **and tightening the collar** such that the bearing tabs move towards each other until said **second end edge of the spacer is in contact** with second element over substantially the entire periphery of said second edge.” (See, independent claim 26, above; emphasis added.) In other words, independent claim 26 claims that the second end edge of the spacer is, before tightening, in contact with the second element by the portion of maximum length only. This enables a change in orientation such that, at the end of the tightening, full contact is achieved.

17. The clamping collar of Calmettes describes a spacer (abutment 5) that is cut from a metal blank. Watts describes the use of a spacer 48 having a curved edge 56. The curvature of the spacer edge 56 is adapted to the curvature of the arcuate bearing surface 54 of the shoulder member 34. (See, Watts, FIGs. 2 and 3, col. 3, ll. 2-15 and 35-44.) Clearly, arcuate bearing surfaces 54 and 56 have the same curvature, which enables full contact between surfaces 54 and 56 over their entirety. Because of this full contact, the screw shaft would not be able to change its orientation with respect to the surface 54 during clamping. Therefore, it would be contrary to the teachings of both Calmettes and Watts to modify the clamp of either reference to have a partial contact between the spacer and the second element before tightening, and a full contact between them after tightening. Therefore, neither Calmettes nor Watts, alone or in combination, teach or suggest Applicants’ independent claim 26.

Applicants’ New Independent Claim 27

18. With regard to independent claim 27, in addition the Applicants’ arguments above with respect to independent claim 26, Applicants assert that none of the art cited, alone or in combination, nor other of record, teach or suggest a “spacer [presenting] a **transverse slot that extends over a portion of the periphery** of the spacer... and that is **suitable for closing up** at least in part when the collar is tightened.” (See, Applicants’ independent claim 27, above; emphasis added.) As one of skill in the art would appreciate, this enables the spacer to provide a

satisfactory spacing while enabling a change of orientation of the screw with respect to the bearing tab.

Dependent claims

19. The dependent claims incorporate all the subject matter of their respective independent claims and add additional subject matter which makes them independently patentable over the art of record. Accordingly, Applicants respectfully assert that the dependent claims are also allowable over the art of record.

Conclusion

20. In view of the foregoing, this application should be in condition for allowance. A notice to this effect is respectfully requested.

21. Applicants reserve the right to pursue any cancelled claims or other subject matter disclosed in this application in a continuation or divisional application, cancellations and amendments of above claims, therefore, are not to be construed as an admission regarding the patentability of any claims and Applicants reserve the right to pursue such claims in a continuation or divisional application.

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Respectfully submitted,

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